FIG.1A

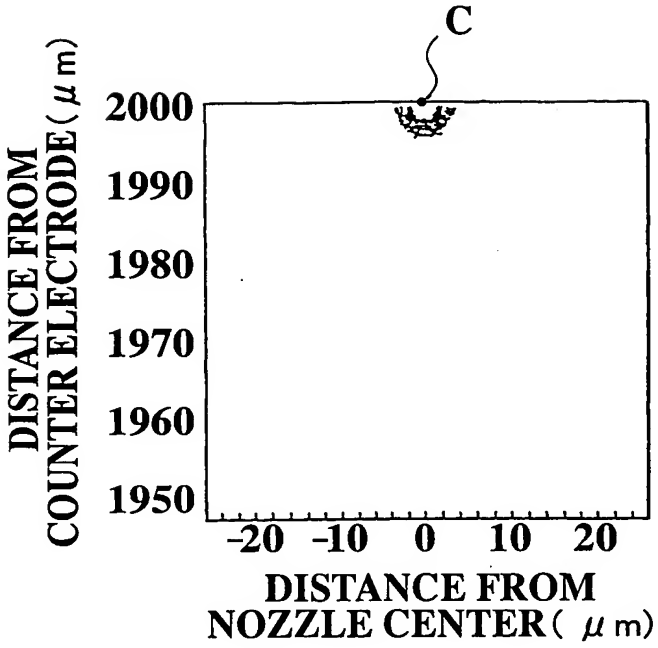

C
2000
1990
1980
1970
1960
1950
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.1B

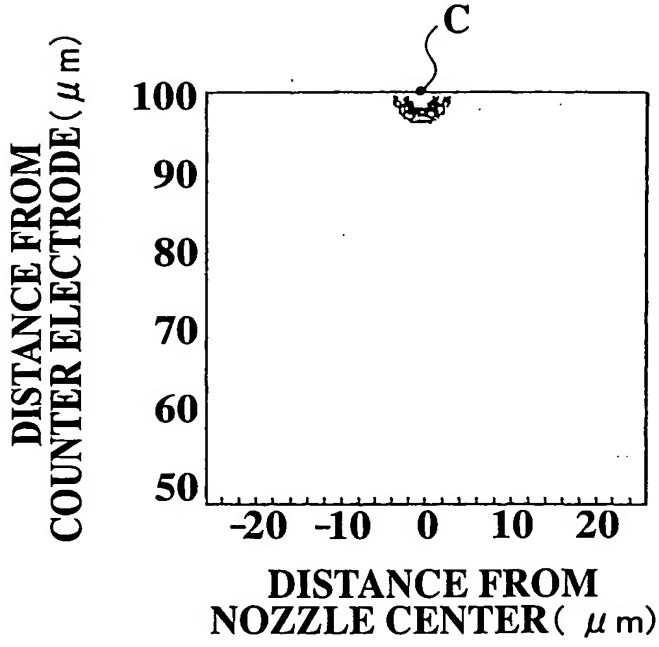

C
100
90
80
70
60
50
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.2A

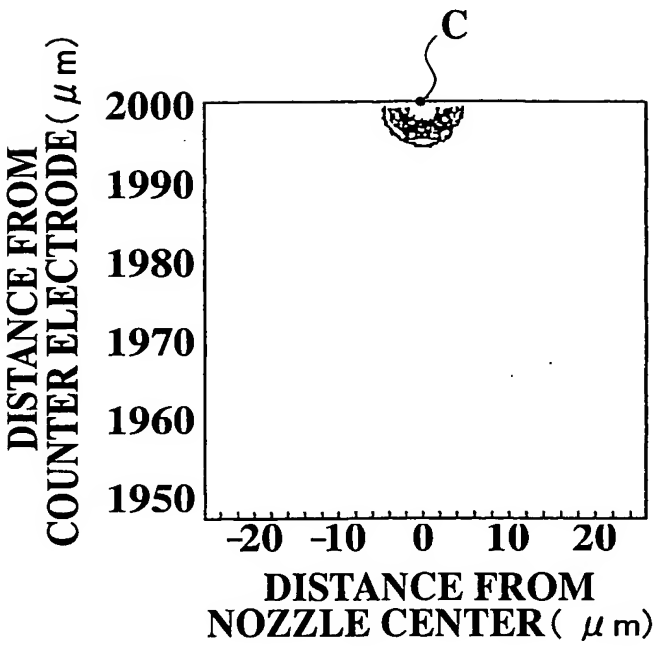

C
2000
1990
1980
1970
1960
1950
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.2B

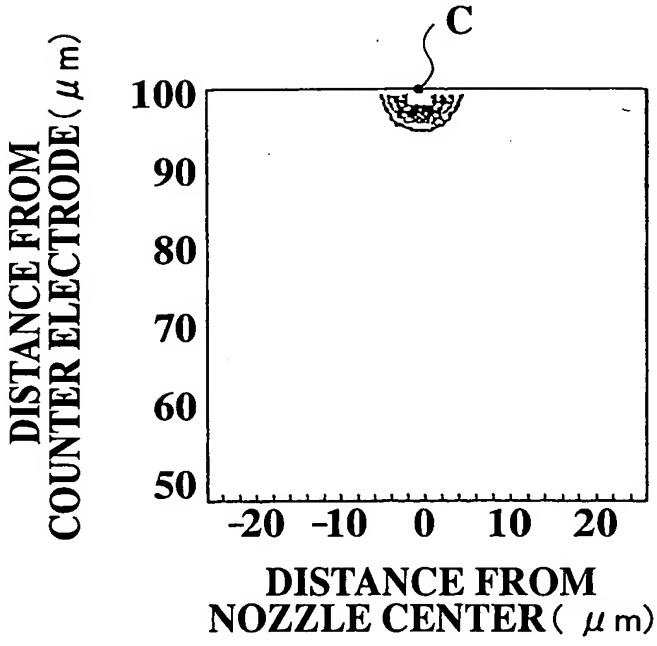

C
100
90
80
70
60
50
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.3A

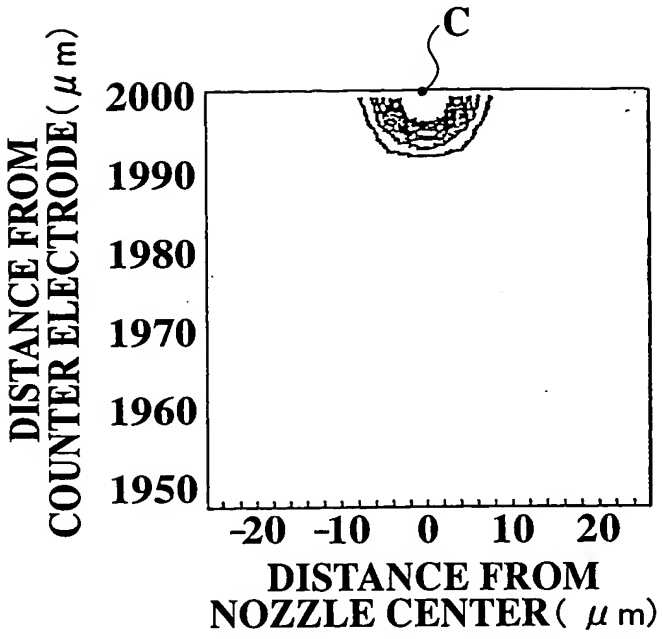

C
2000
1990
1980
1970
1960
1950
DISTANCE FROM COUNTER ELECTRODE (μm)
-20 -10 0 10 20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.3B

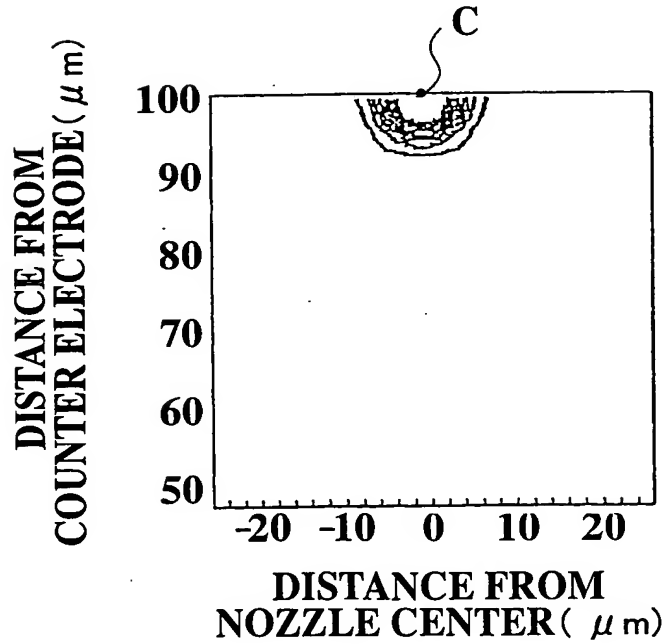

C
100
90
80
70
60
50
DISTANCE FROM COUNTER ELECTRODE (μm)
-20 -10 0 10 20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.4A

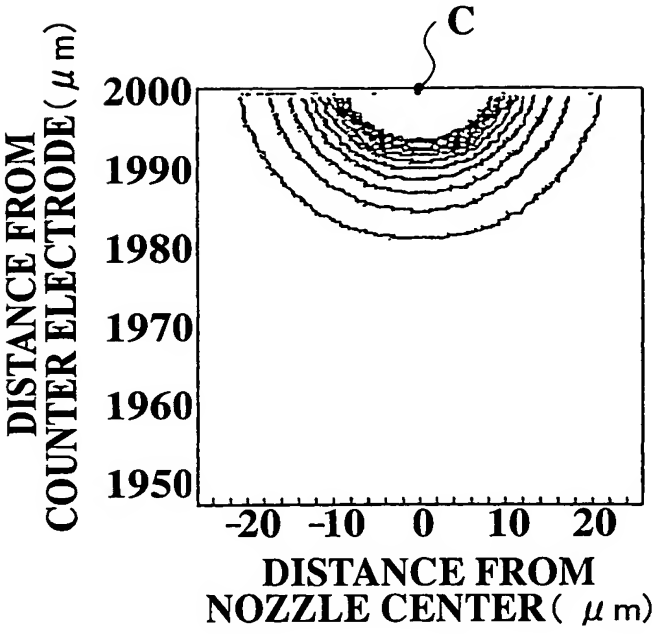

C
2000
1990
1980
1970
1960
1950
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.4B

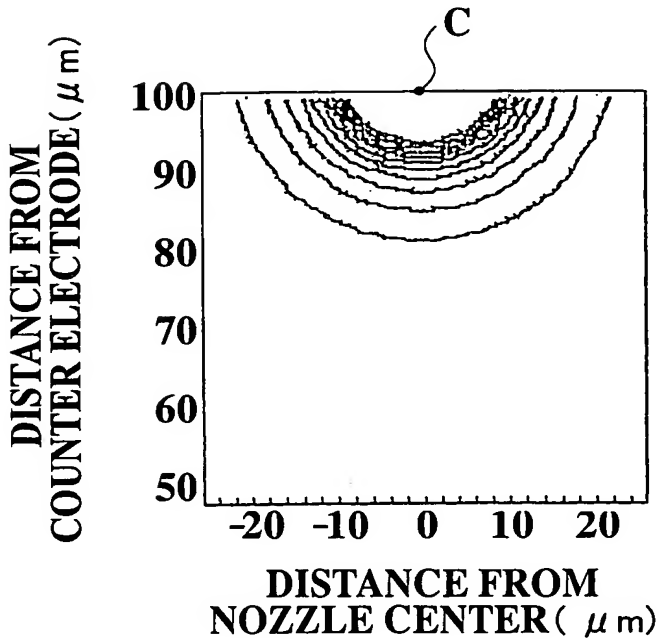

C
100
90
80
70
60
50
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.5A

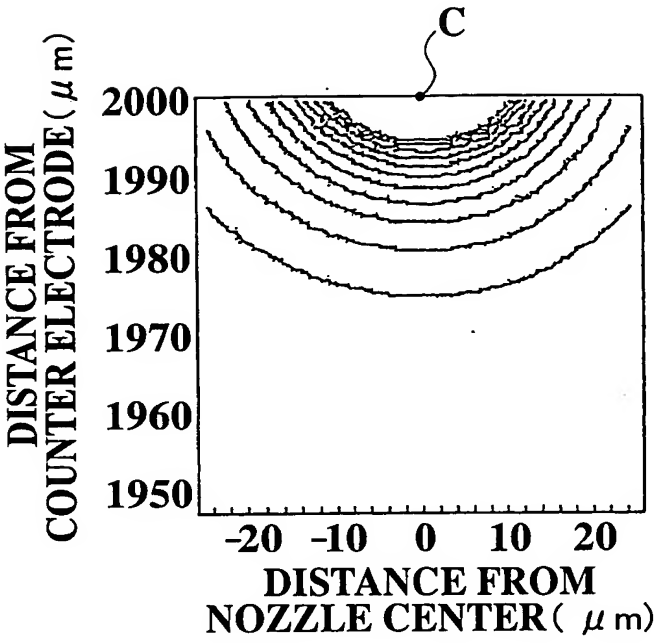

C
2000
1990
1980
1970
1960
1950
DISTANCE FROM COUNTER ELECTRODE (μm)
-20 -10 0 10 20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.5B

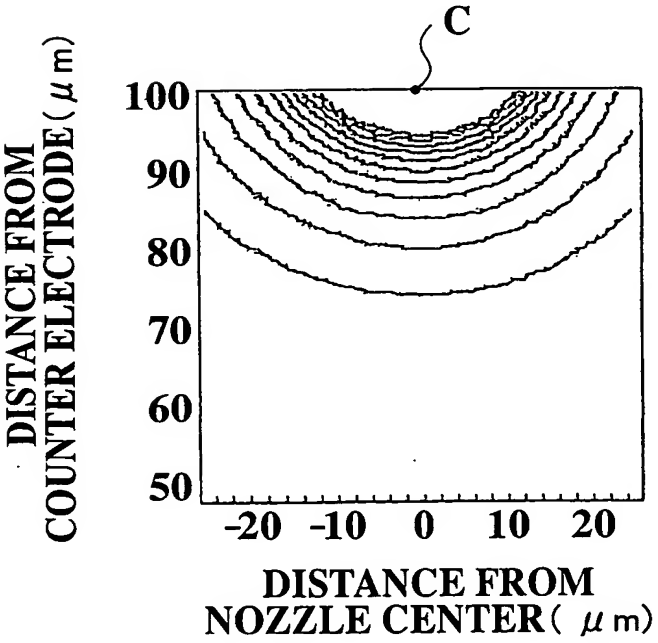

C
100
90
80
70
60
50
DISTANCE FROM COUNTER ELECTRODE (μm)
-20 -10 0 10 20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.6A

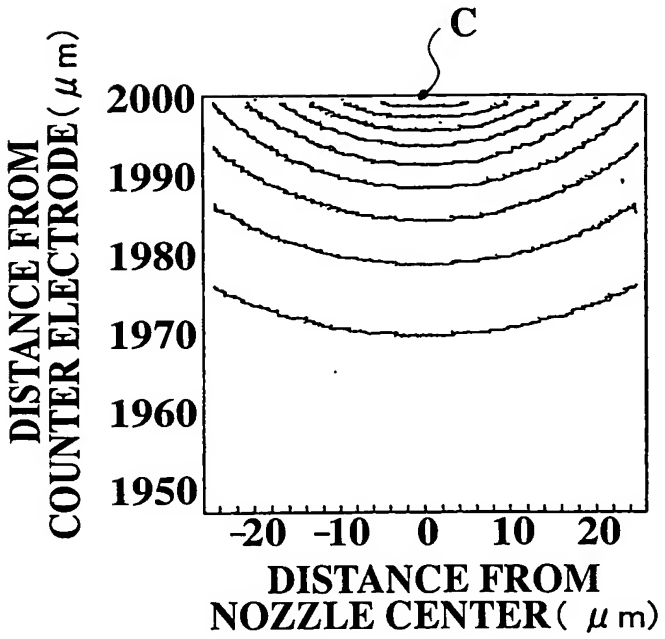

C
2000
1990
1980
1970
1960
1950
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.6B

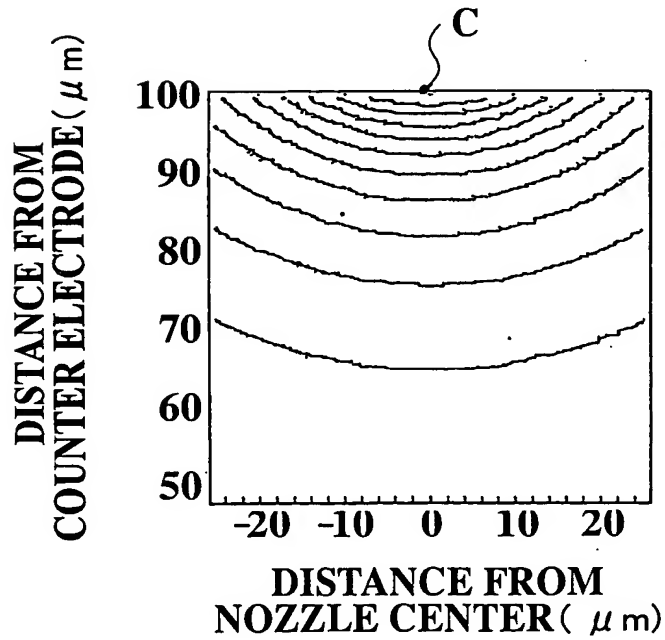

C
100
90
80
70
60
50
DISTANCE FROM COUNTER ELECTRODE (μm)
-20
-10
0
10
20
DISTANCE FROM NOZZLE CENTER (μm)

FIG.7

NOZZLE DIAMETER (μ m)	MAXIMUM ELECTRIC FIELD INTENSITY(V/m)		COEFFICIENT OF FLUCTUATION (%)
	GAP100 (μ m)	GAP2000 (μ m)	
0.2	2.001×10^9	2.00005×10^9	0.05
0.4	1.001×10^9	1.00005×10^9	0.09
1	0.401002×10^9	0.40005×10^9	0.24
8	0.0510196×10^9	0.05005×10^9	1.94
20	0.0210476×10^9	0.0200501×10^9	4.98
50	0.00911111×10^9	0.00805×10^9	13.18

FIG.8

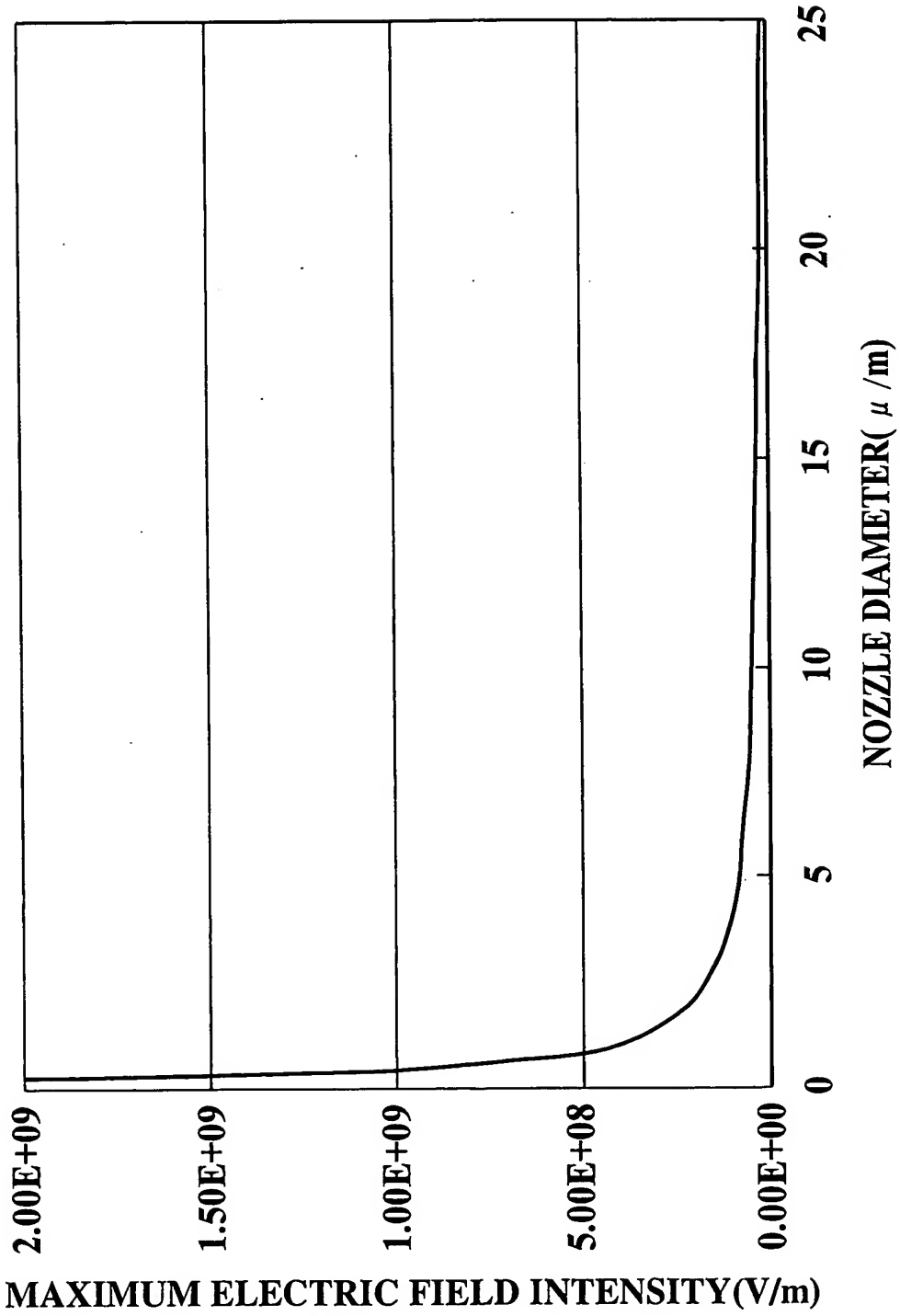

NOZZLE DIAMETER(μ /m)
0
5
10
15
20
25
2.00E+09
1.50E+09
1.00E+09
5.00E+08
0.00E+00
MAXIMUM ELECTRIC FIELD INTENSITY(V/m)

FIG.9

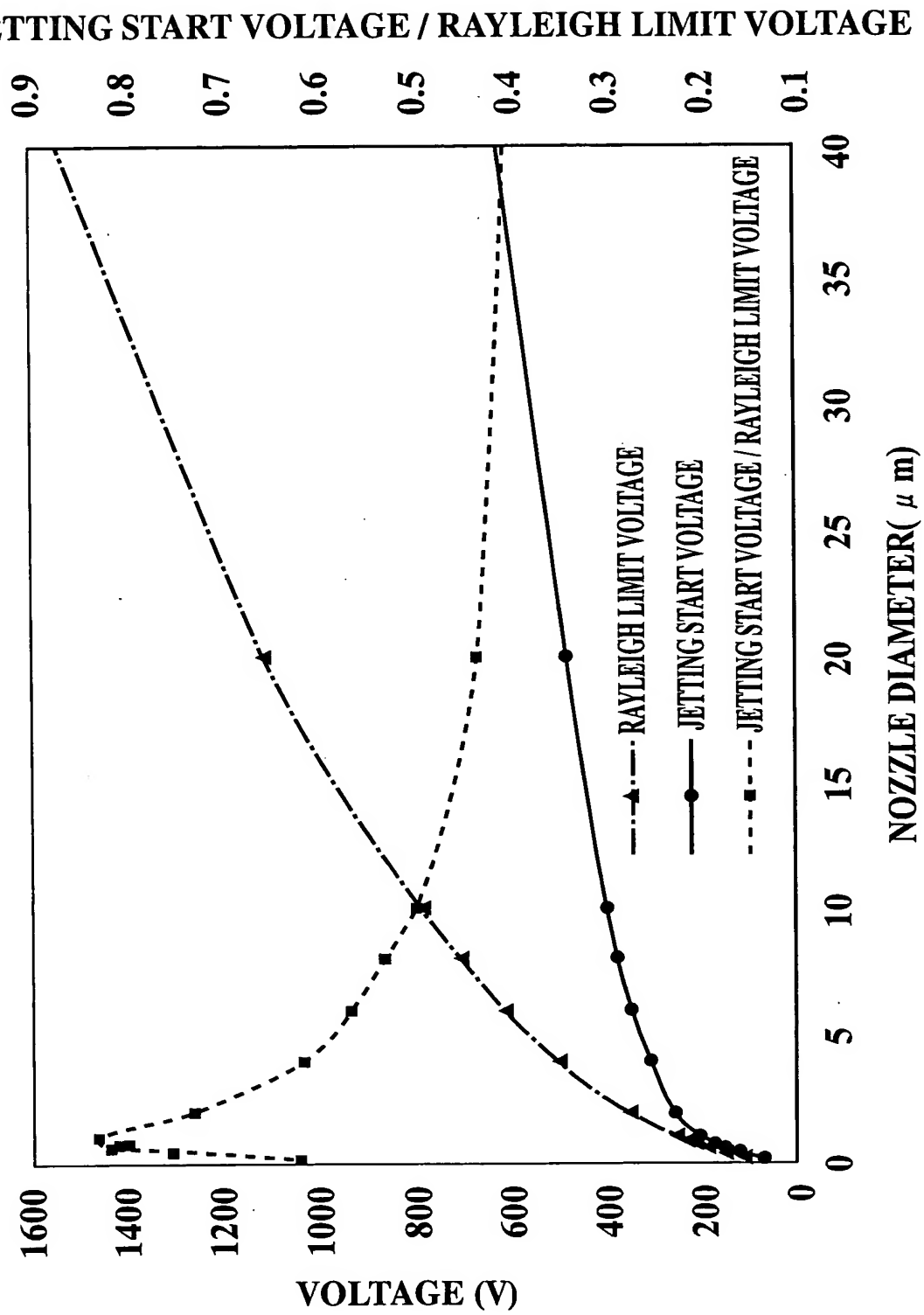

JETTING START VOLTAGE / RAYLEIGH LIMIT VOLTAGE
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
RAYLEIGH LIMIT VOLTAGE
JETTING START VOLTAGE
JETTING START VOLTAGE / RAYLEIGH LIMIT VOLTAGE
NOZZLE DIAMETER(μ m)
0
5
10
15
20
25
30
35
40
1600
1400
1200
1000
800
600
400
200
0
VOLTAGE (V)

FIG.10

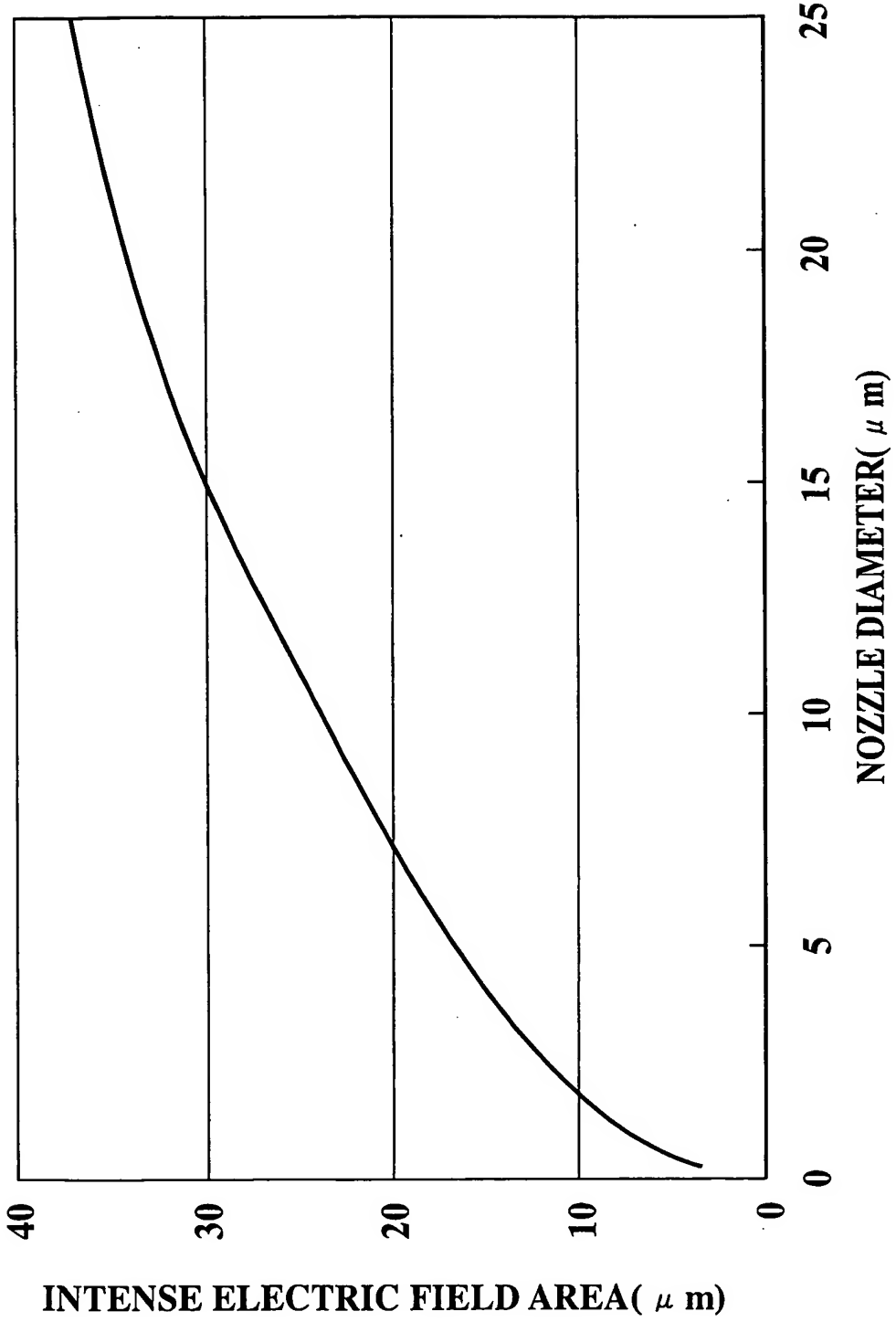

0
5
10
15
20
25
NOZZLE DIAMETER(μ m)
40
30
20
10
0
INTENSE ELECTRIC FIELD AREA(μ m)

FIG.11

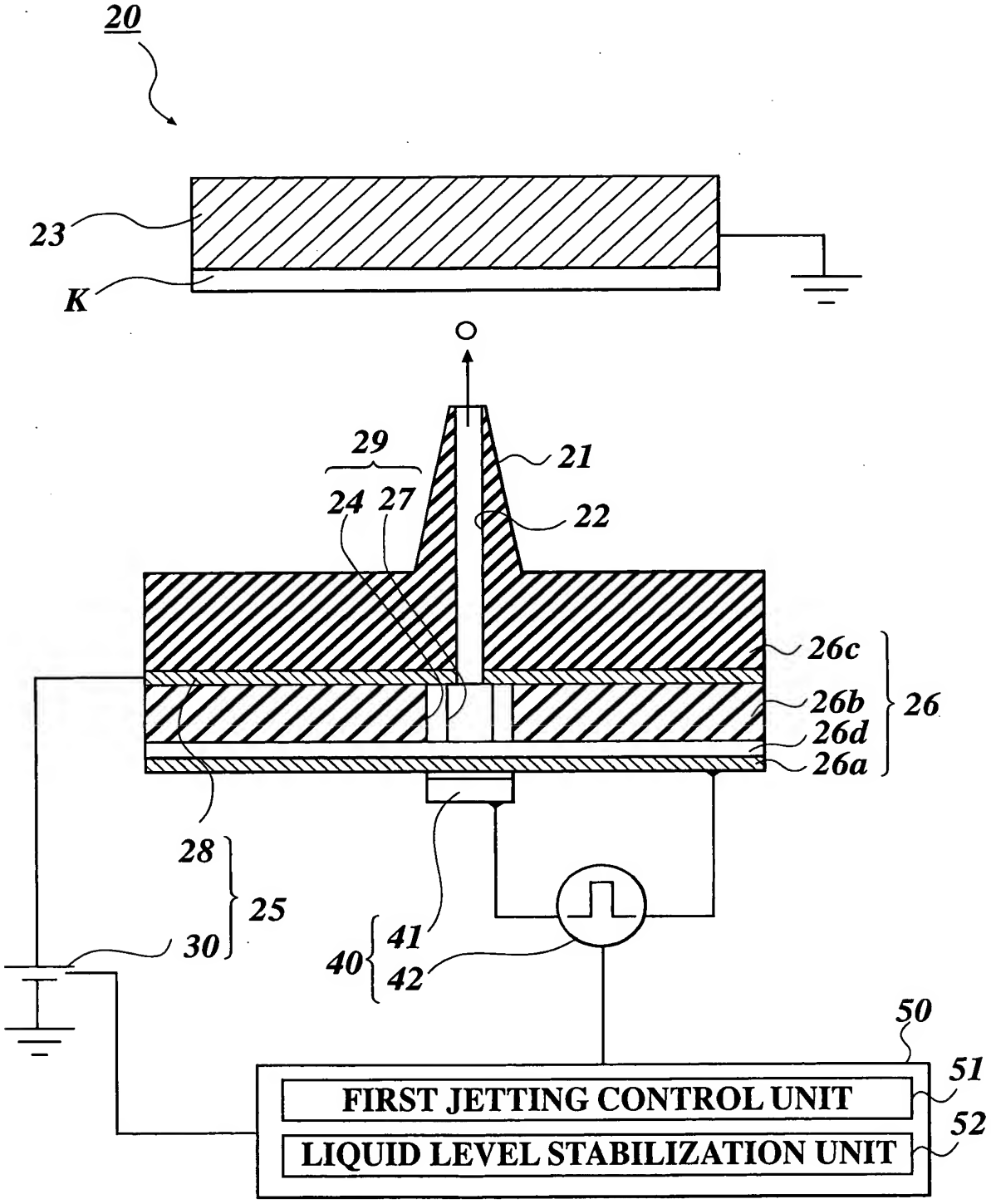

20
23
K
29
24
27
21
22
26c
26b
26d
26a
26
28
25
30
40
41
42
50
51
52
FIRST JETTING CONTROL UNIT
LIQUID LEVEL STABILIZATION UNIT

FIG.12A

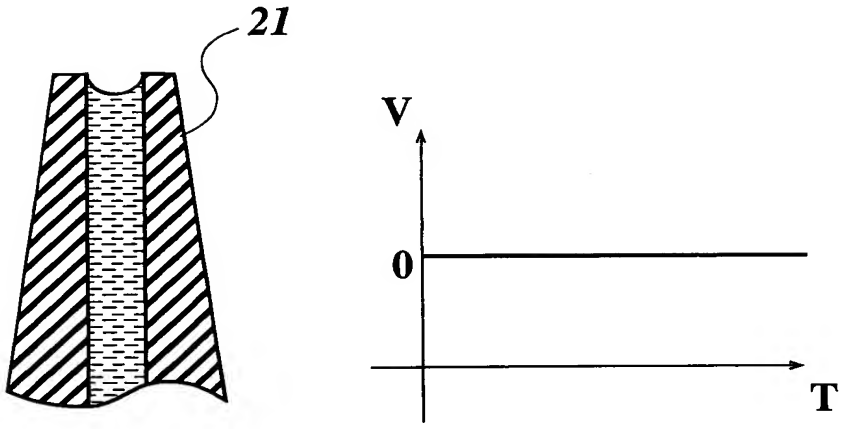


FIG.12B

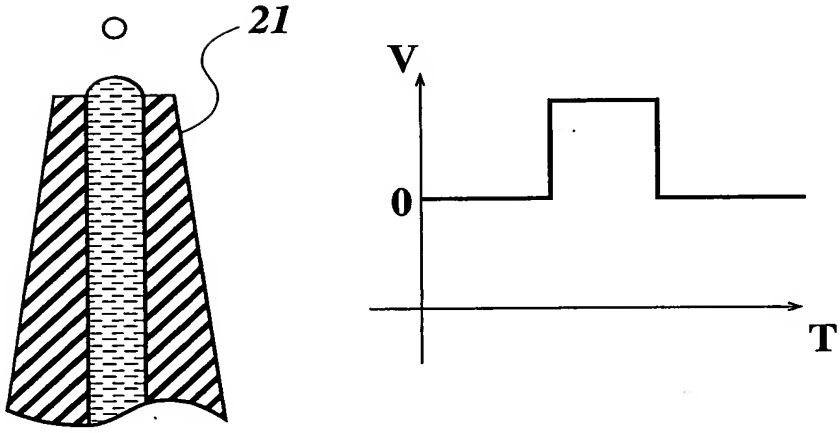


FIG.12C

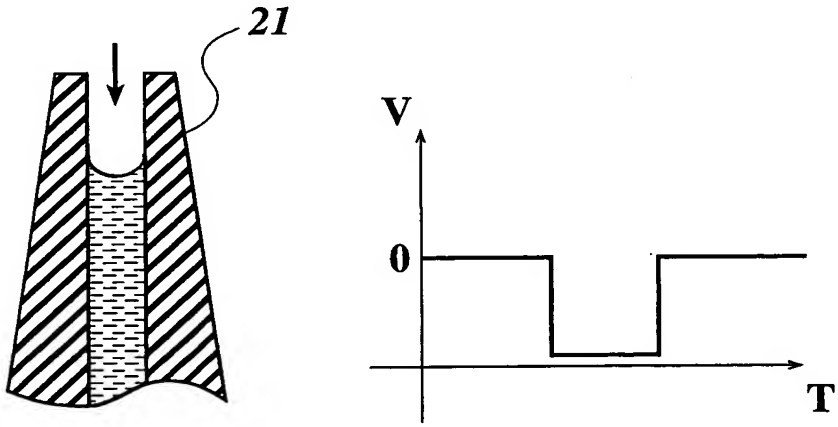


FIG.13

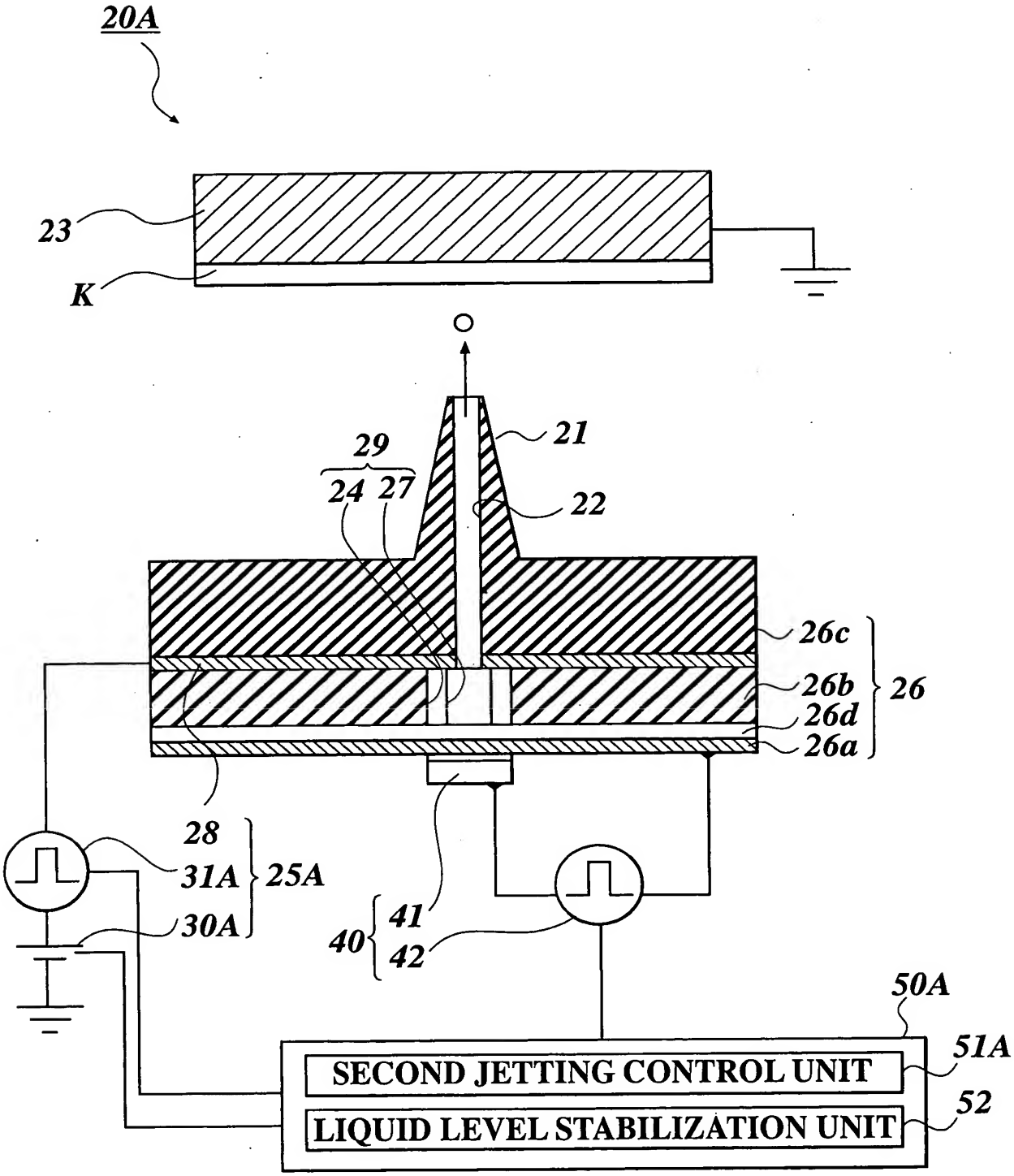

20A
23
K
29
24
27
21
22
26c
26b
26d
26a
26
28
31A
25A
30A
40
41
42
50A
SECOND JETTING CONTROL UNIT
51A
LIQUID LEVEL STABILIZATION UNIT
52

FIG.14A

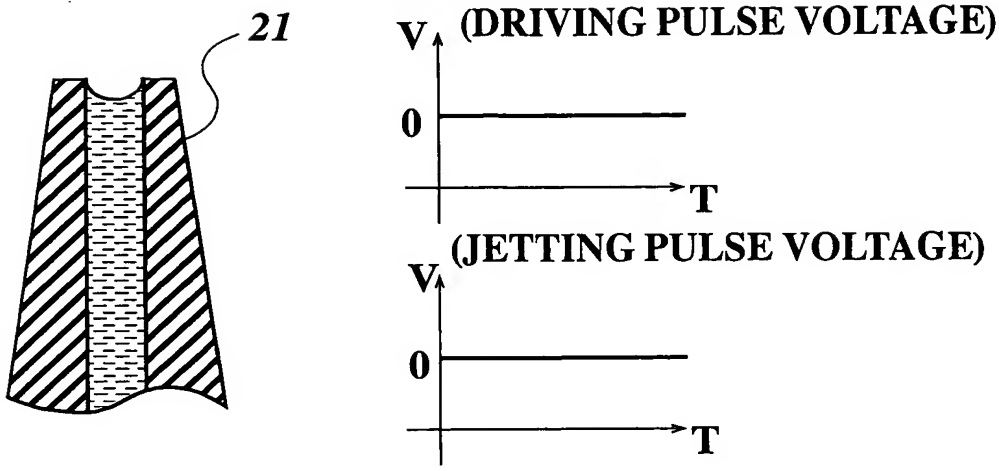


FIG.14B

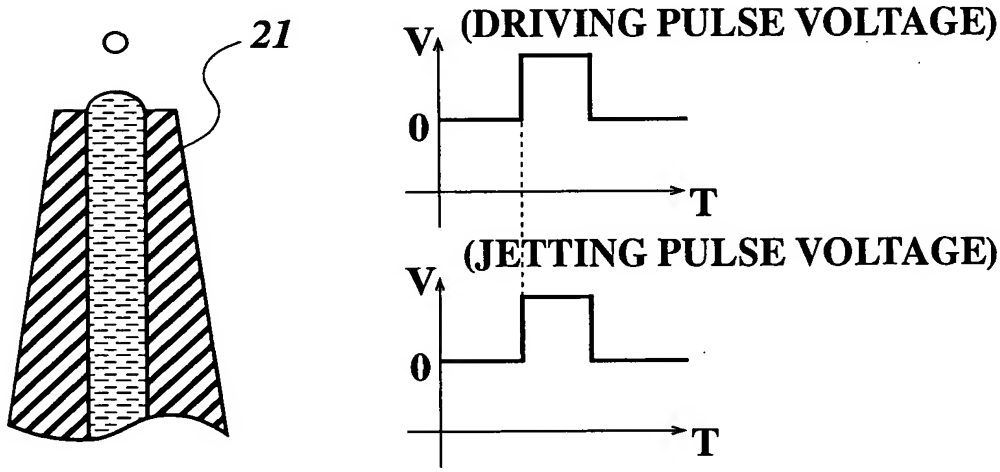


FIG.14C

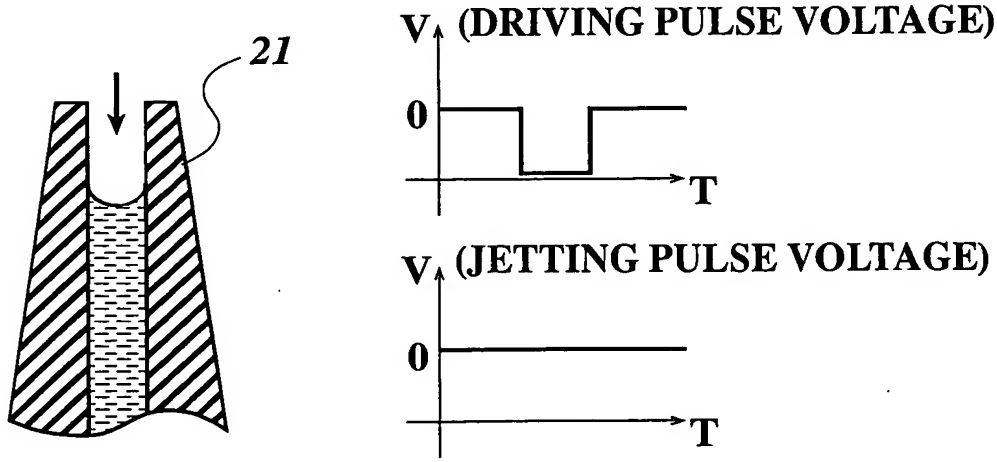


FIG.15

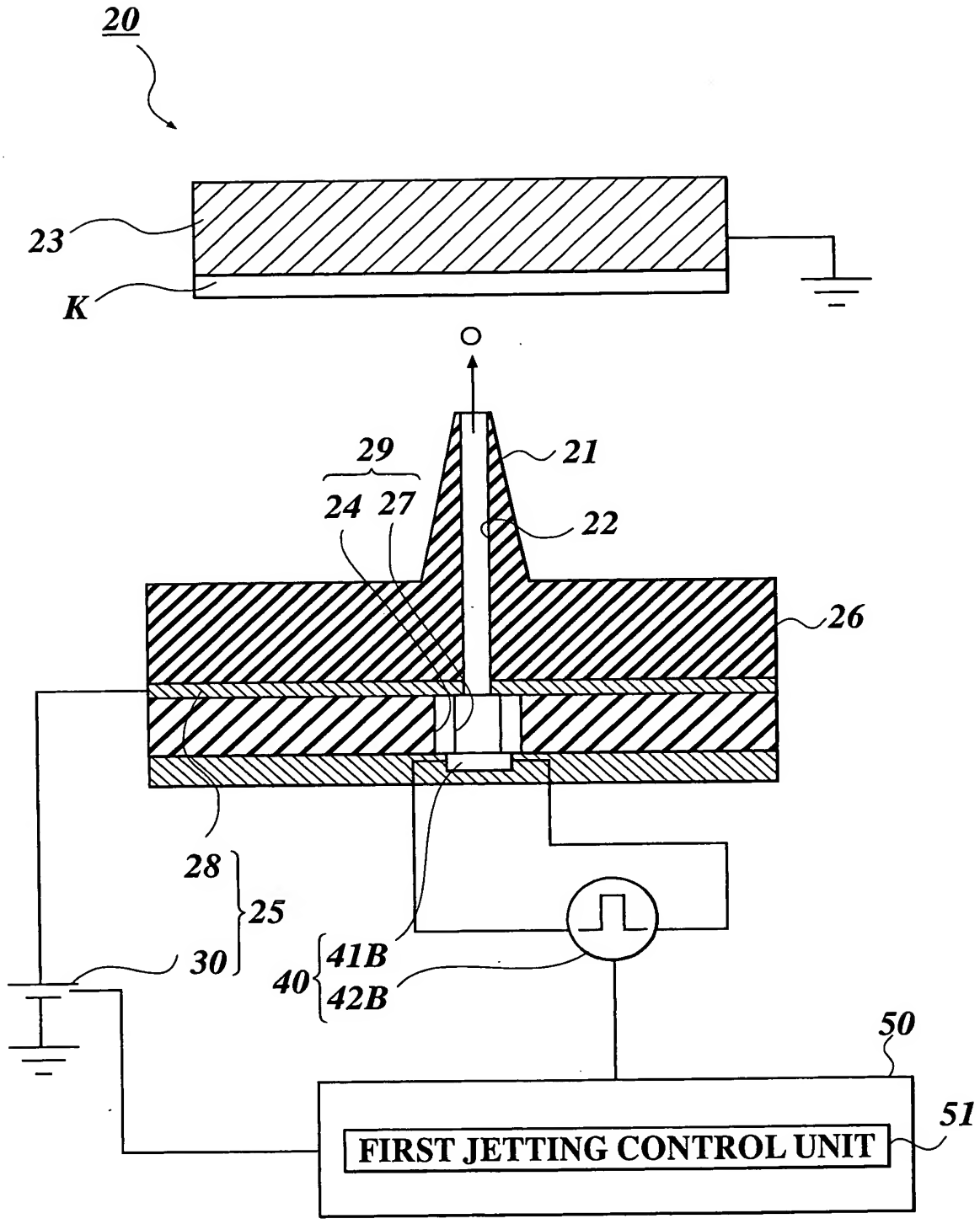

20
23
K
29
24
27
21
22
26
28
25
30
40
41B
42B
50
FIRST JETTING CONTROL UNIT
51

FIG.16A

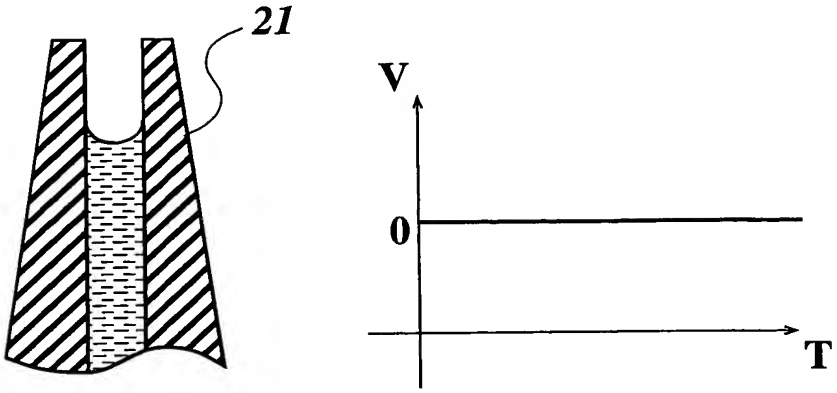


FIG.16B

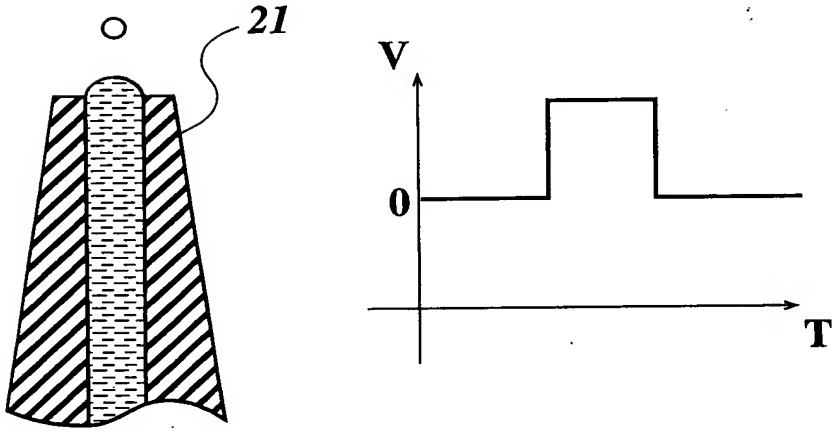


FIG.16C

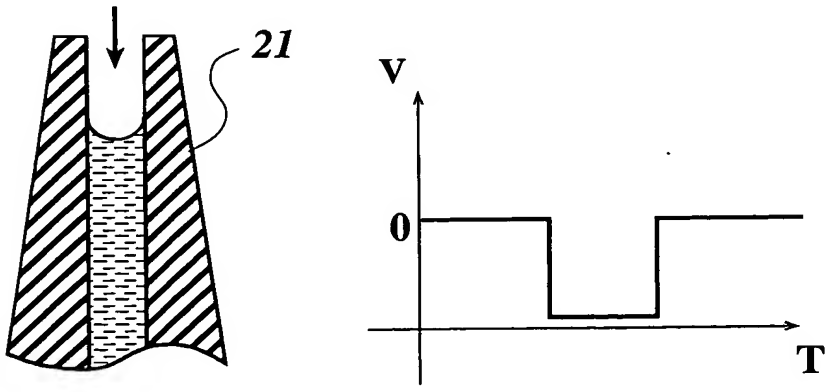


FIG.17A

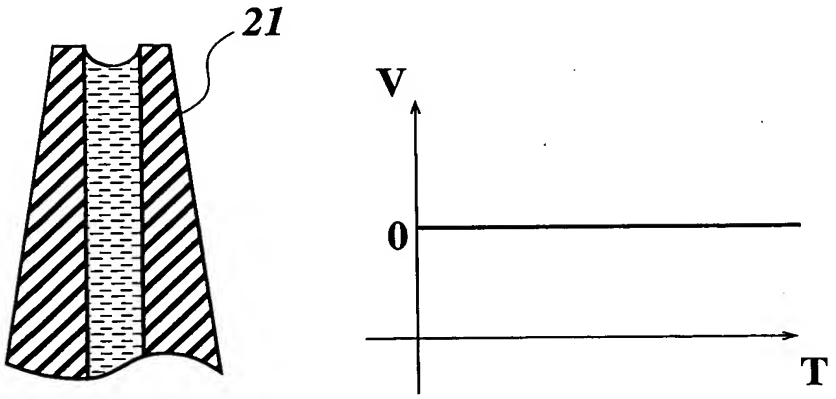


FIG.17B

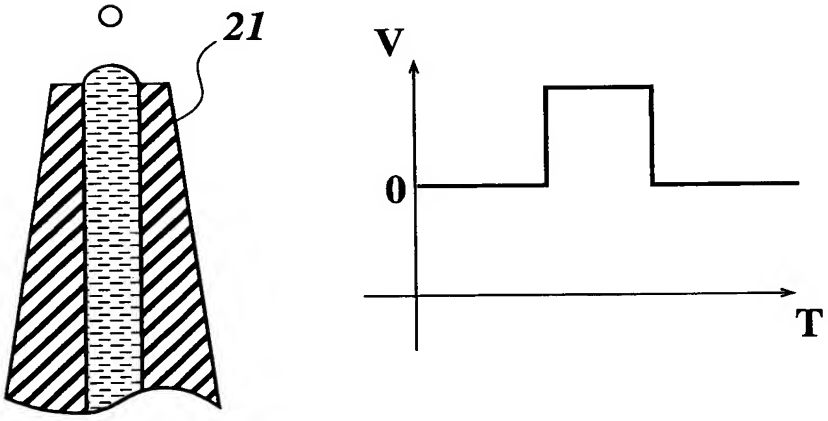


FIG.18A

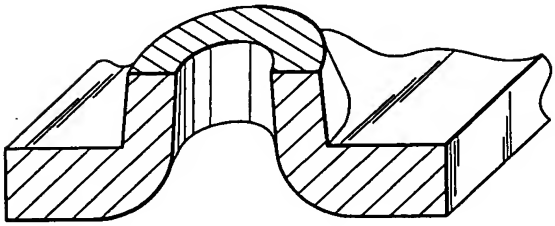


FIG.18B

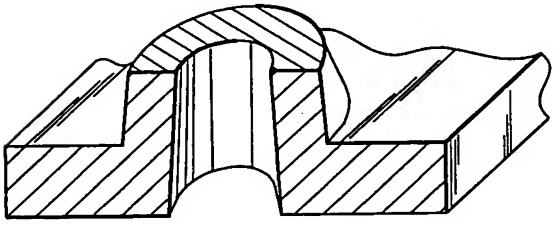


FIG.18C

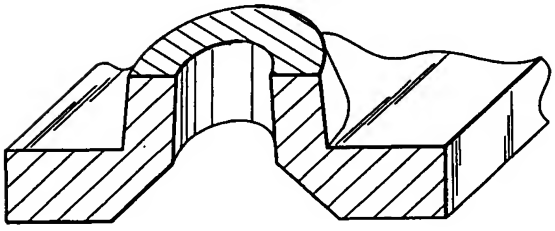


FIG.19

No.	CONTROL PATTERN	RESPONSIVENESS
1	Ⓐ	2
2	Ⓑ	3
3	Ⓒ	3.5
4	Ⓓ	4.0
5	Ⓔ	5.0
6	Ⓕ	3
7	Ⓖ	3.5

FIG.20

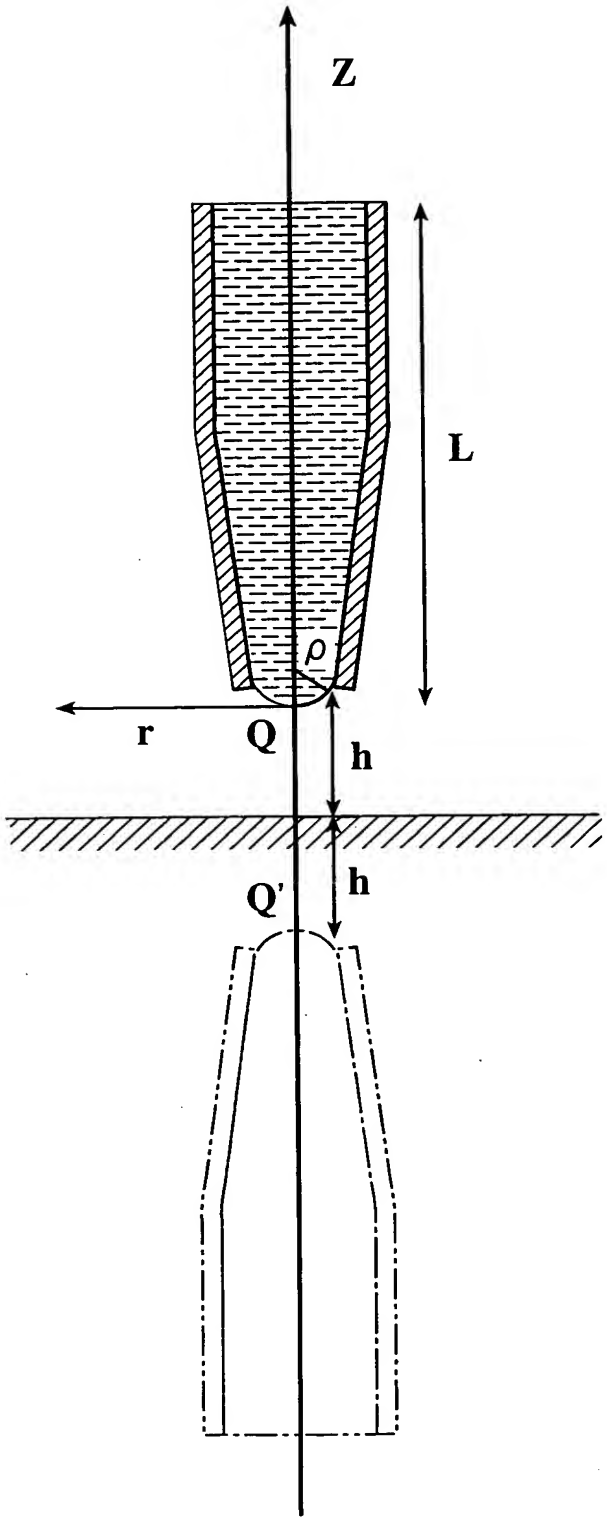


FIG.21

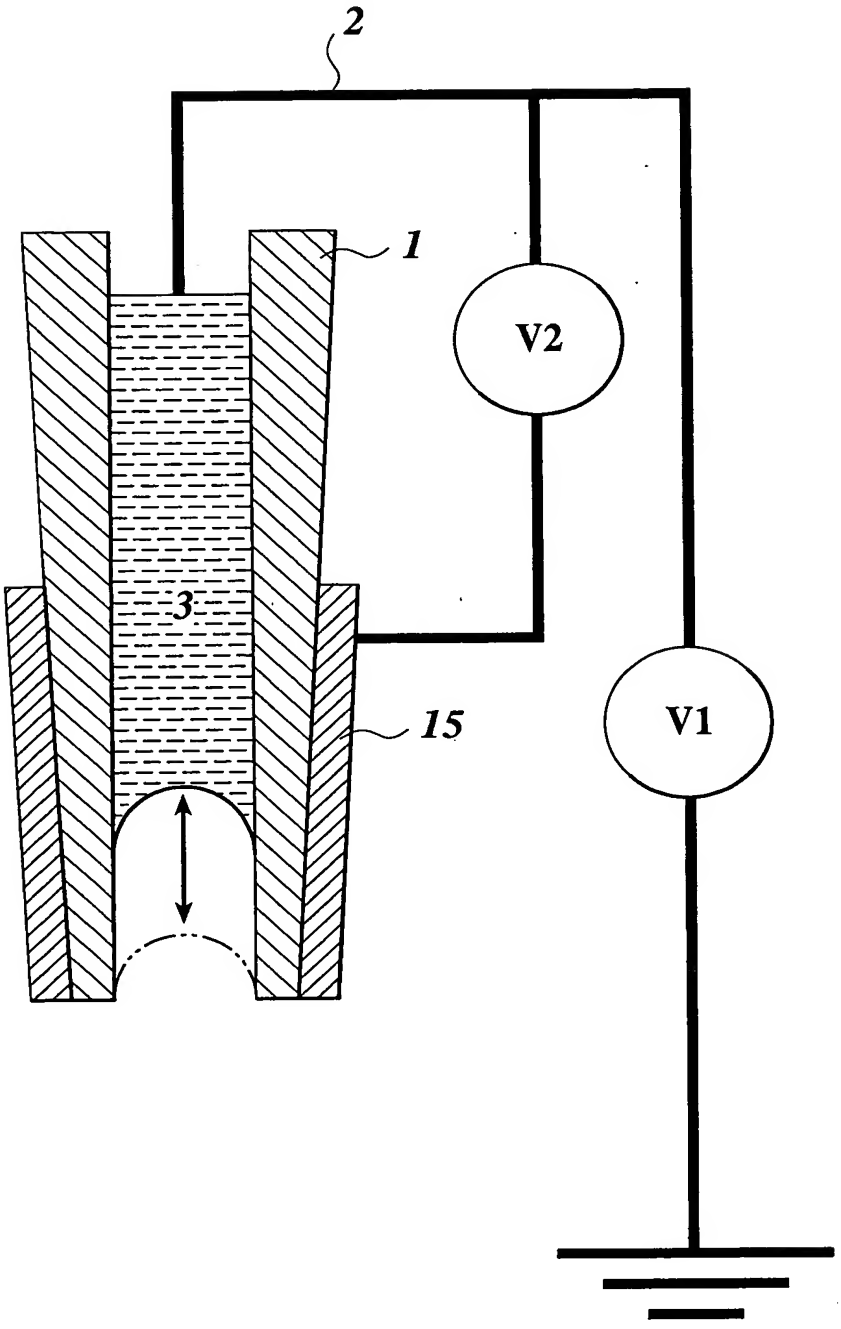
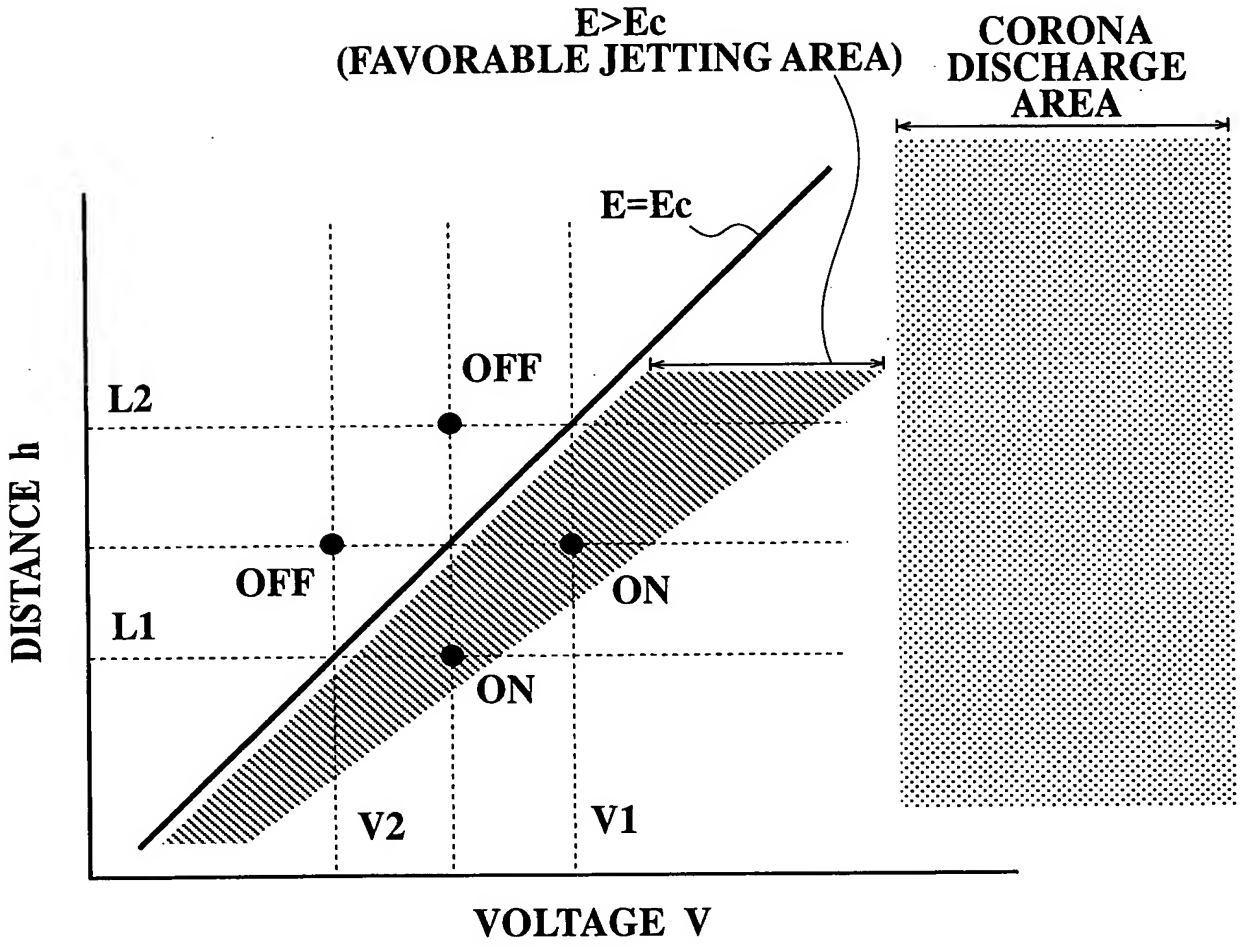


FIG.22


E>Ec
(FAVORABLE JETTING AREA)
CORONA
DISCHARGE
AREA
E=Ec
OFF
L2
OFF
ON
L1
ON
V2
V1
DISTANCE h
VOLTAGE V